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AALBORG UNIVERSITY
DENMARK

The Aalborg model of teaching in Architecture

- a talk about the Aalborg concept of teaching architectural design.

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The Aalborg model of teaching Architecture

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Master of Art in Architecture, Architect MAA
Architecture & Design, Aalborg University Denmark

At Bern University of Applied Sciences Architecture, Wood and Civil Engineering June 4 200

In my presentation, I will focus on:

1. A general introduction to the study environment in Aalborg and the study programme at Architecture and Design, Aalborg University.
2. A presentation of the specialisation in Architecture and the challenges that we have had to face when creating this course of study.
3. Giving a more detailed example of a final project dealing with Environmental Sustainable Architecture.



Architecture & Design domicil Gl. Torv



Foto Søren Kuhn

Sydney Operahouse
By Jørn Utzon

Utzon Centre
By Jørn Utzon
& Kim Utzon



Bachelor education



Basic studies programme:

- | | |
|-------------|--|
| 1. Semester | Intro to PBL studies & Ark/Design theory/method + mathematic |
| 2. Semester | Intro to PBL studies & Ark/Design theory/method + mathematic |

Basic educational programme:

- | | |
|-------------|---|
| 3. Semester | Main Project: DD/ID + Ark/ Urb Mini Project |
| 4. Semester | Main Project: Ark/Urb + ID/ DD Mini Projekt |
| 5. Semester | Main Project: TEMA & -pre. specialization./ optional study activities |

6. Bachelor Project.: **Architecture** **Industrial Design** **Urban Design** **Digital Design**





Architecture & Design Master education



Architecture master programme

1.1. Main Project: Project Work 23 ECTS /7 ECTS Project unit courses. Mini Project 7/2 ECTS.

1.2. Main Project: Project Work 23 ECTS /7 ECTS Project unit courses/2. Mini Project 5/1 ECTS

2.1. Main Project: Project Work 25 ECTS /3 ECTS Project unit courses. Mini Project 5/2 ECTS.

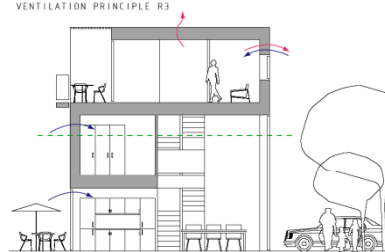
Plus optional study activities: courses and study trips

2.2. Master Thesis 30 ECTS.

PRESENTATION
PLAN DWELLING TYPE R3



PRESENTATION
VENTILATION PRINCIPLE R3



PRESENTATION
SITE SECTION



Architecture & Design Master education



Architecture master programme

1.1 . Tectonic Design. Architectural Form and Structure + Minip.: Studies in Tectonic Design

1.2. Architectural Form, space and Environmental Design + Minip.: Conceptual Archi. Design

2.1. Architectural Research and Development + Minip.: Architectural Project Management

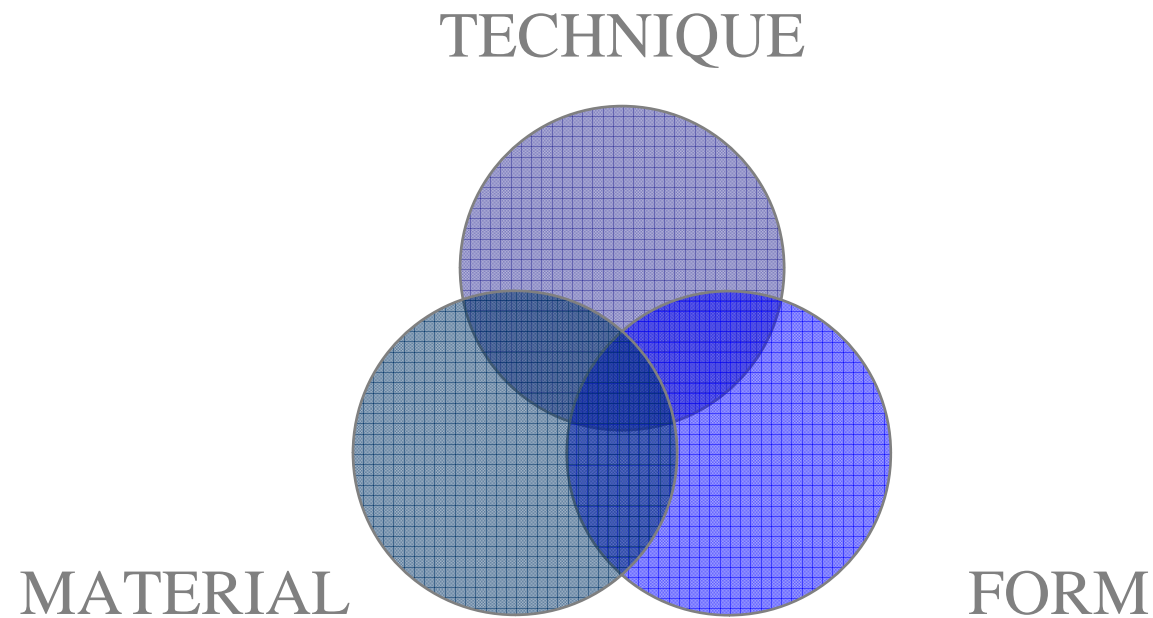
Plus optional study activities: courses and study trips

2.2. Master Thesis

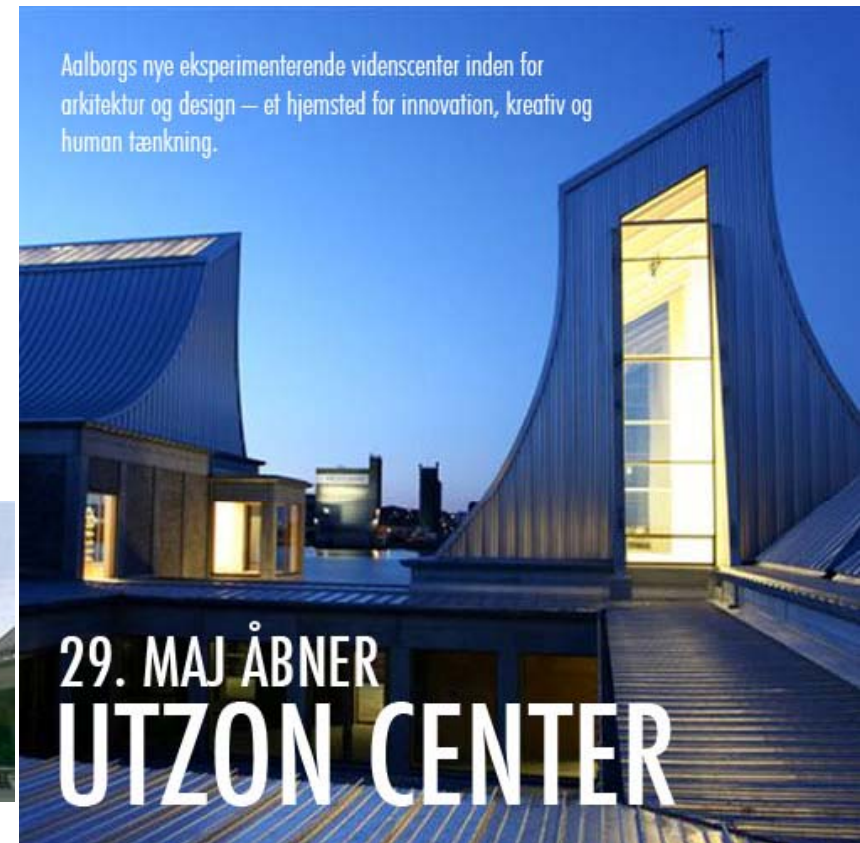
PRESENTATION
DWELLING TYPE L2 INTERIOR



Tectonics



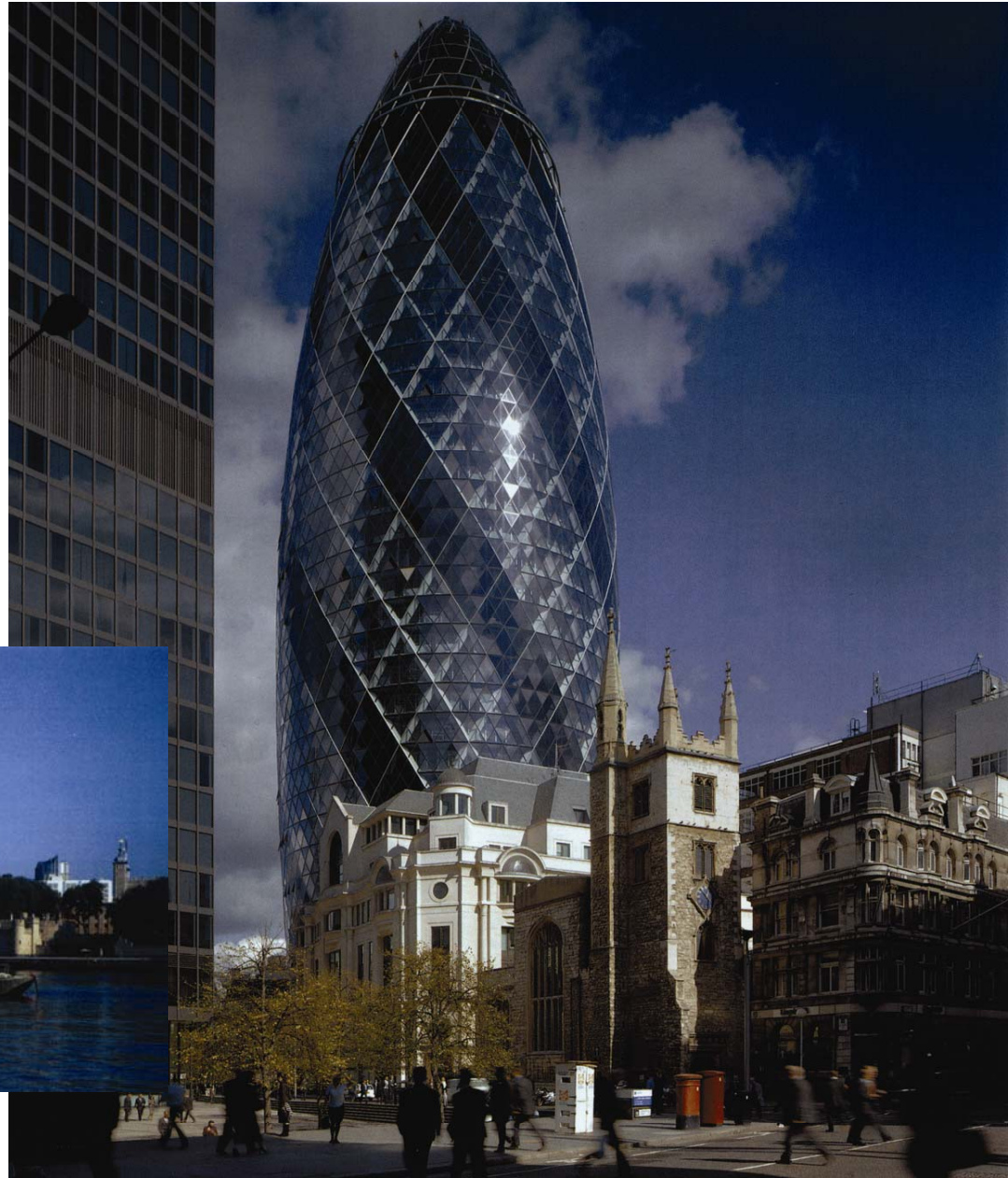
Frampton proposes that tectonics is a means to reveal the essence of a building. Therefore he suggests logic constructions, in order to clarify the structure of a piece of architecture, and make it immediately understandable.



Utzon Centre by Jørn Utzon & Kim Utzon

<http://www.utzoncenter.dk/>

Swiss Re UK
Headquarters, London
Foster and Partners



EDITT Tower,
Singapore
Ken Yeang



Ecotowers,
London
Ken Yeang



Is it important to make sustainable buildings?

- The global environment is in a poor state.
- Over the coming years, building legislation will require energy consumption for construction to be reduced by up to 50-90%.
- To bring down the CO₂ level.
- Developing new integrated building concepts is therefore necessary.
- In Europe, today, the "Passiv Haus Concept" is in focus and the ultimate aim is to build energy-producing houses by means of sustainable energy sources.



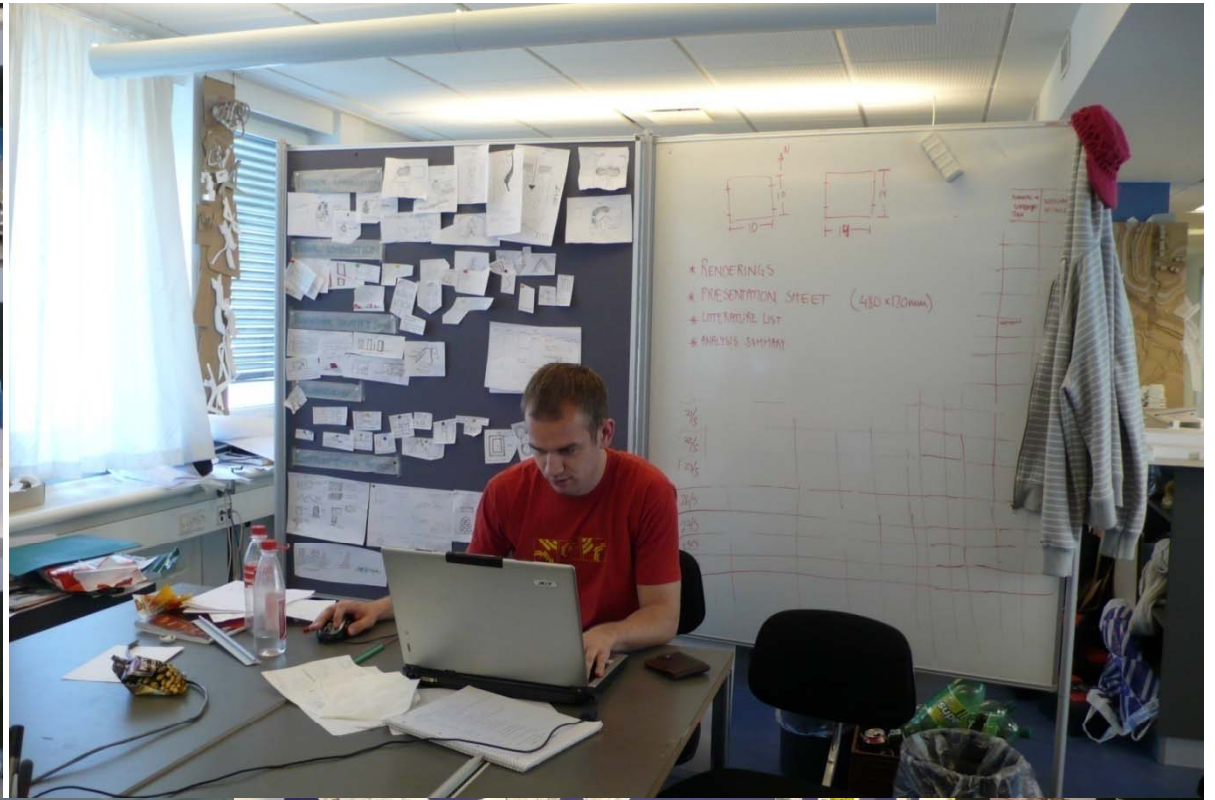
“Since 1998, floods in Europe have caused some 700 deaths, the displacement of about half a million people and at least 25 billion Euro in ensured economic losses”.

(From Press Release of the European Parliament April 2007)

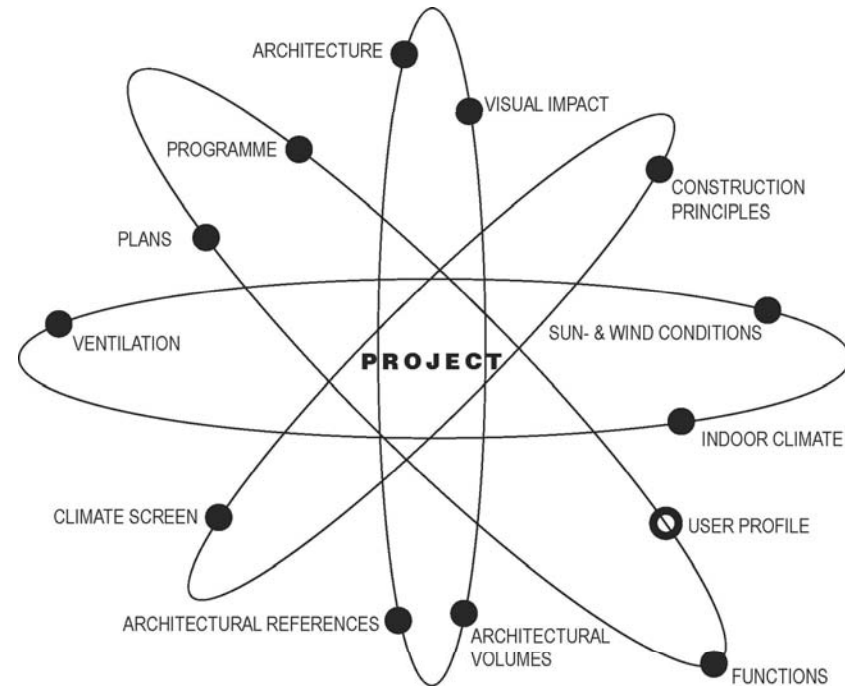


The great challenge!

- The building and construction industry is today facing great challenges due to the fact that energy consumption will have to be reduced to a considerable degree within the next few years in order to ensure that no further damage is done to the global environment.
- The industry is thus facing major changes in terms of public regulation and in the way building and construction is carried out in practice, whereby “bad habits” seen in relation to an energy optimisation of the building will have to give way to new and better methods.
- It has been a natural challenge for a relatively new university like Aalborg University to develop teaching methods that are tailored to dealing with current societal/technological issues. In terms of both research and teaching, Aalborg University utilises an interdisciplinary approach to a considerable extent.



The Integrated Design Process (IDP) at A&D



The Integrated Design Process are using the professional knowledge and design method from architecture and parameters from engineering in an integrated process.

The architect's artistic approach to the creation of ideas as well as he or her ability to see new solutions and work strategically and Inter-disciplinary in interaction with engineering parameters is very important.

Problem formulation / project idea / aim



Analysis phase

Analysis of site, urban development plans, company profile, functional diagram, energy and indoor environment principles as well as principles of construction.

(*ideas to the main concept*)

Aim & program



Sketching phase

Through the sketching process, architectural ideas are produced and linked to principles of construction, energy consumption and indoor environment. As well as the functional demands to the new building. In this phase, *the main concept* usually emerges.



Synthesis phase

Architectural & functional qualities, the construction and demands of energy consumption and indoor environment flow together, and more qualities may have been added.

A new building has been created



Presentation phase

The final project is presented in a report, drawings, cardboard model and via IT visualisation.

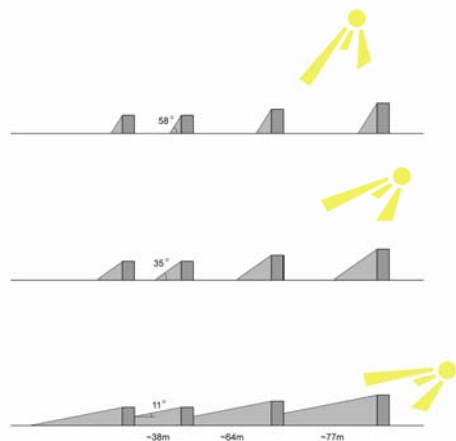
The barriers and the challenges that appear when you cross the borderland between architecture and engineering

- It is important to combine knowledge from engineering and architecture from the beginning of the process.

By making an integrated approach and collaboration between design solutions of the architects and the technical parameters of the engineers **running into conflicts at later stage can be avoid**

- So it's a good idea to take the technical parameters into consideration early on in the architectural process and to **include technical calculations already in the sketching process.**

Housing at the old goods railway area in Aalborg



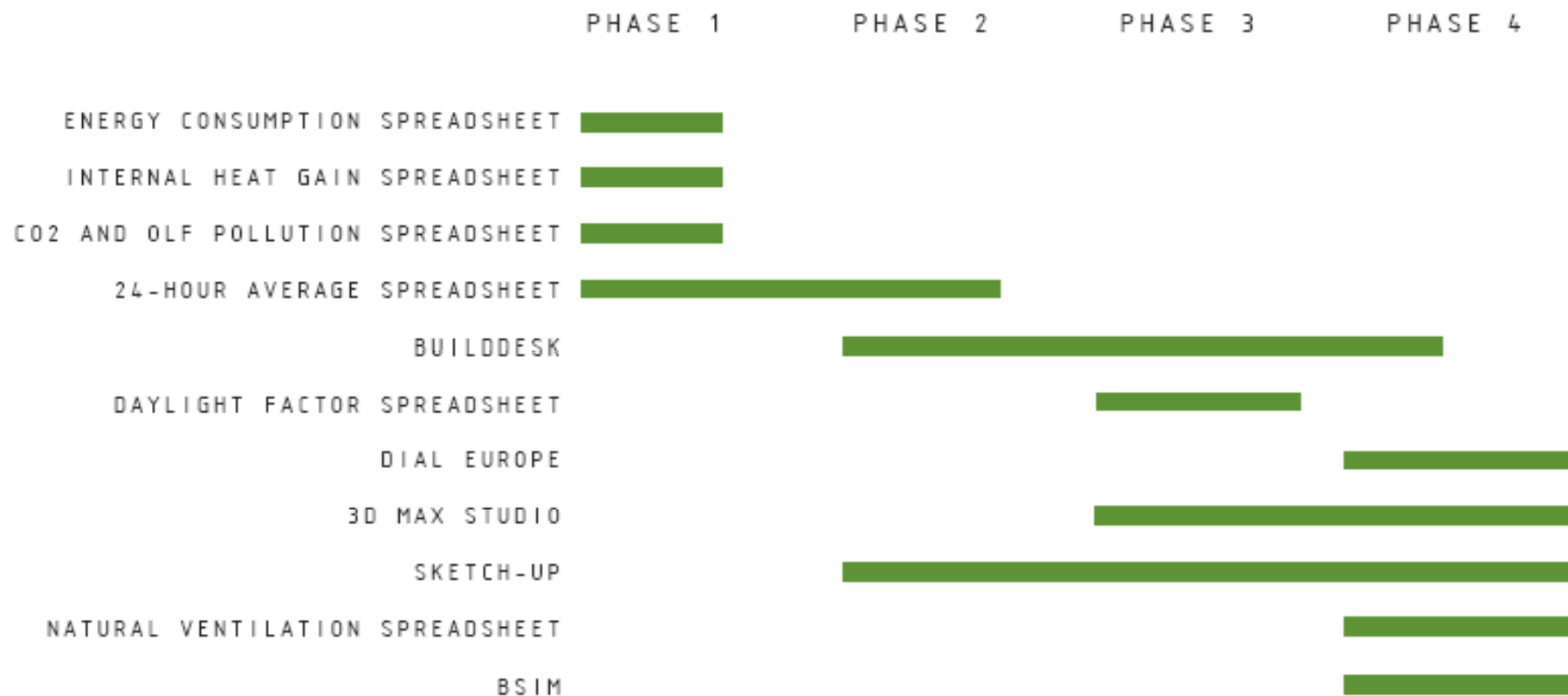


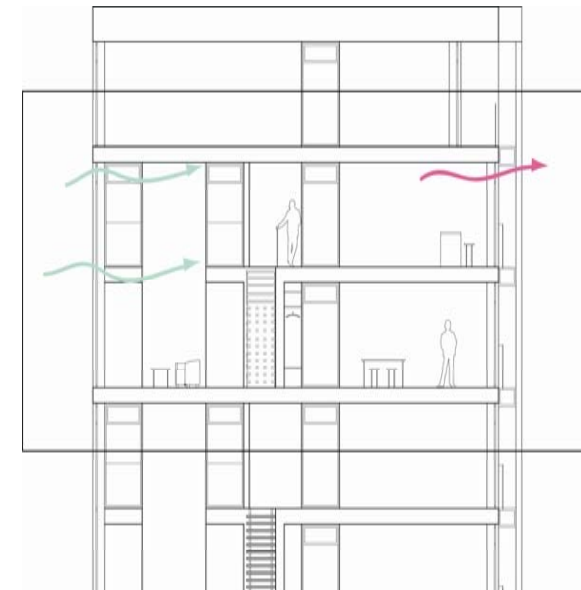
THE FLAT TO THE VEST



To allow for the integrated design process to function optimally, a number of design and calculation tools are available for use in the different phases. The phases and tools will undoubtedly overlap each other depending on each individual project and process.

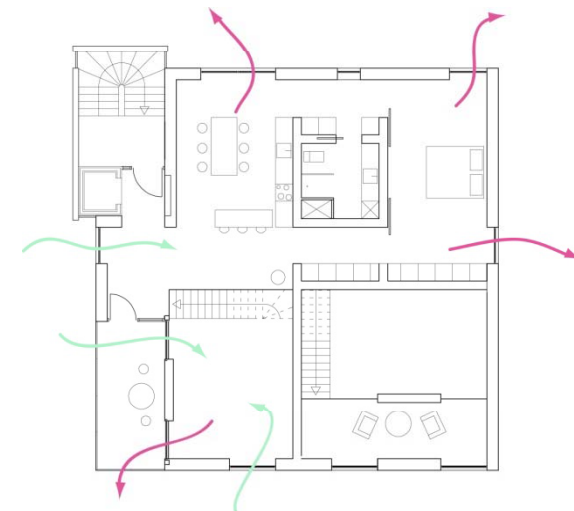
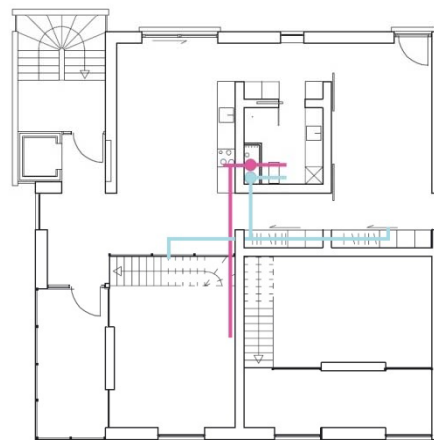
PROCESS

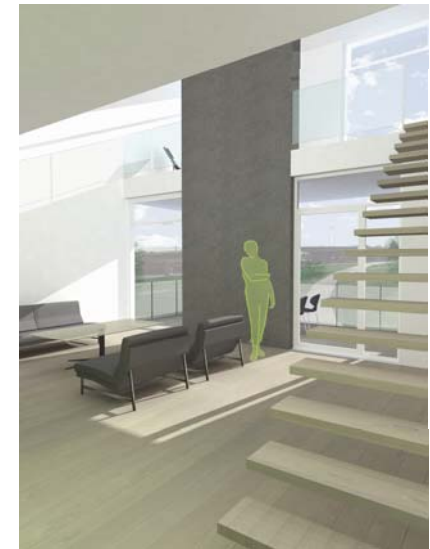




Natural ventilation

Mechanical
ventilation

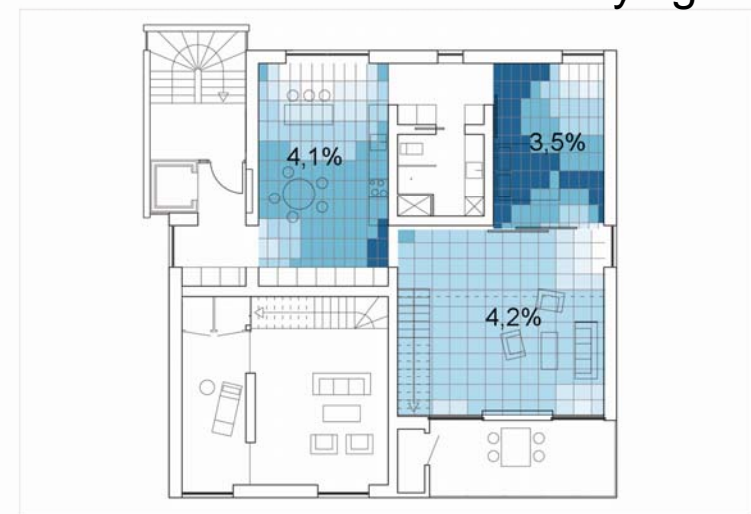




THE FLAT TO THE EAST



Day light



Thank you !